

REMARKS

1. Claims Rejections - 35 U.S.C. § 103

1.1 Claims 9, 10, 15-18 and 21-24

Claims 9, 10, 15-18 and have been rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,058,485 to Koziuk in view of GB 2 279 750 to Ryan.

Independent claim 9 has been amended and specifies, among other features, that the user-manipulable member is moveable in response to a finger of a user and that a movement sensor (in addition to an activity sensor) is present. As claimed, the activity sensor detects when a finger of a user approaches or touches the user-manipulable member. This "wakes-up" the movement sensor, which outputs pointing command signals in response to movement of the user-manipulable member.

In contrast to the claimed input device, Koziuk is directed to a touch sensitive panel that does not include any moveable parts. In Koziuk, a finger may act as a capacitive load that is coupled to a resistive layer of the panel. In this touch mode, the resistive layer 28 is biased by the application of an AC signal to a shield layer 31 (column 4, lines 11-27). The position of the finger may change the current flow in corner wires 20 so that movement of the user's finger may be tracked (column 4, lines 27-38). In a pen mode, the shield layer is grounded, but current flow in the corner wires may track movement of the pen (column 4, lines 39-48). This greatly differs from how the claimed input device outputs pointing command signals.

Also different is how Koziuk's panel is "woken-up" from a sleep mode. In Koziuk, a specialized pen (see column 3, lines 41-52) is brought near the panel and current flow that is generated in the corner wires is compared against a threshold current value (column 6, lines 5-20). It appears that Koziuk's wake-up operation is not applicable to the touch mode because of Koziuk's power management scheme relating to turning on of the power-consuming biasing signal (column 6, lines 45 to 67, and column 8, lines 43-51).

The Examiner acknowledges that Koziuk does not disclose the claimed resonant circuit or threshold comparator that form part of the activity sensor, and combines Ryan with Koziuk for these features. But Ryan relies on an active electrode arrangement

from which an electric field emanates. In contrast, the claimed subject matter recites a more passive implementing principle.

More specifically, Ryan is directed to a capacitive proximity sensor that relies on electrode sets that "are supplied with alternating voltages so that an alternating electric field is produced in their vicinity. Conductive or dielectric bodies entering this field affect the field so that the current from the electrode(s) that creates the field is affected." (Ryan, page 4) Therefore, Ryan relies on an active electrode arrangement from which an electric field emanates. In the claimed subject matter, a passive conductive part is arranged so that an approaching finger influences frequency changes in the claimed resonant circuit.

It is immediately apparent that even if the references were combined, the claimed invention would not result. In particular, the claimed activity sensor would not result from the combination. Also, neither of the references disclose a moving member or a separate movement sensor.

In addition, the references are not properly combinable. The Examiner's rational for combining the references is to replace Koziuk's current measurement circuits with Ryan's sensing means. But this would disrupt Koziuk's carefully balanced power management scheme. Waking-up of Koziuk's panel is described in connection with a specialized pen to avoid unintentional activation (e.g., the activation current threshold is greater than the current that results from the user touching the panel as described at page 6, lines 5-20). And, when in touch mode, Koziuk uses touch of the panel to determine when and how long to apply the power-consuming biasing signal and to determine when to transition out of certain states and/or the touch mode (see, for example, column 2, lines 10-23 and columns 6-9). The addition of Ryan's sensor would result in more frequent application of the biasing signal than Koziuk contemplates, such as when a conductive or dielectric body approaches (and does not necessarily touch) the Koziuk panel. As a result, Koziuk's power consumption would likely go up if the combination were made, rather than down as proposed by the Examiner. For these reasons, one of ordinary skill in the art would be dissuaded from making the

combination. Thus, sufficient rational underpinnings that support a legal conclusion of obviousness are lacking.

With respect to claims 15, 16, 21 and 22, the claimed ball allows the input device to be used by rolling the ball. This differs from the types of devices of Koziuk and Ryan. In particular, since the ball rolls, the ball is not easily connected to sensing electronics with conductors, as is the case in Koziuk and Ryan. Therefore, the claimed activity sensor is particularly well-suited to the environment of a ball, whereas the arrangements of Koziuk and Ryan are not. As such, the subject matter of claims 15, 16, 21 and 22, each taken as a whole, are not obvious variants as proposed by the Examiner.

In view of the foregoing, reconsideration and withdrawal of these rejections under 35 U.S.C. § 103(a) is respectfully requested.

1.2 Claim 12

Claim 12 have been rejected under 35 U.S.C. § 103(a) over Koziuk in view of Ryan and further in view of U.S. Patent No. 6,661,410 to Casebolt. Claim 12 depends from claim 9. Also, Casebolt does not cure the deficiencies of the proposed Koziuk/Ryan combination. Thus, even if this combination were made, the claimed subject matter would not result. Therefore, reconsideration and withdrawal of this rejection under 35 U.S.C. § 103(a) is respectfully requested.

1.3 Claim 19

Claim 19 have been rejected under 35 U.S.C. § 103(a) over Koziuk in view of Ryan and further in view of U.S. Patent No. 6,567,677 to Sokoloff. Claim 19 depends from claim 9. Also, Sokoloff does not cure the deficiencies of the proposed Koziuk/Ryan combination. Thus, even if this combination were made, the claimed subject matter would not result. Therefore, reconsideration and withdrawal of this rejection under 35 U.S.C. § 103(a) is respectfully requested.

2. New Claim

Claim 25 has been added to recite a feature of the movement sensor.

3. Conclusion

In light of the foregoing, it is respectfully submitted that the present application is in condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any fees resulting from this communication, please charge same to our Deposit Account No. 18-0988.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

By /MDavidGalin/
M. David Galin; Reg. No. 41,767

1621 Euclid Avenue
Nineteenth Floor
Cleveland, Ohio 44115
Telephone: (216) 621-1113
Facsimile: (216) 621-6165